

### REMARKS

The Final Office Action rejected Claims 1-17, and 23-48. By this After Final Amendment, Applicant has amended Claims 44 and 48 in order to address the §112, first paragraph, rejection to clearly point out the claimed subject matter of the invention. Thus, Claims 1-17, and 23-48 are still currently pending in the application. Favorable reconsideration is respectfully requested in light of the following Remarks.

Entry of this Amendment is proper under 37 CFR §1.116 because this Amendment: (a) places the application in condition for allowance (for the reasons discussed herein); (b) does not raise any new issue requiring further search and/or consideration because the amendments amplify issues previously discussed throughout prosecution; (c) does not add claims without deleting an appropriate number of claims; and (d) places the application in better form for appeal, should the appeal be necessary. This Amendment is necessary and was not earlier presented because it is made in response to arguments raised in the final rejection. Entry of this Amendment is thus respectfully requested.

#### I. Formal Matters.

1. It is respectfully requested that the United States Patent and Trademark Office change the Attorney Docket Number for this application to reflect the correct Attorney Docket Number of 65632-0056, not 50107-480.

#### II. The Claims Define Patentable Subject Matter

1. The Office Action rejects Claim 44-48 under 35 U.S.C. §112, first paragraph, as containing matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The rejection is respectfully traversed.

Applicant has amended independent Claim 44 to clearly point out the subject matter of the invention to remove the unclear 'call carrying voice' signaling and 'switched' call terminology. Claim 44 has also been amended to point out that the previously claimed 'switched call' terminology now reads as 'interoffice call' terminology. As recited in the Applicant's originally-filed specification at page 38, line 20 – page 39, line 26, "*the traffic which is being investigated and monitored is the traffic on the trunks where the overload is*

*likely to occur. That is, while the signaling traffic is being monitored, it is not the signaling traffic itself that is a matter of concern. On the other hand, it has been found that it is possible through appropriate analysis of the signaling traffic data to determine not only that a call did not complete but also the point at which it failed, i.e., the point of congestion. The release code shows that the release was due to network congestion. In the case of a CLEC every call made is interoffice so that one hundred percent of PSTN/CLEC calls may be monitored using the SS7 signaling.”* Thus, it is respectfully submitted that the subject matter relating to Claims 44 and 46 is supported by the originally-filed specification.

Even further, Applicant respectfully points out that no art of record has been applied to Claims 44-48. Therefore, Applicant respectfully requests examination of Claims 44-48 on the merits and withdrawal of the FINAL rejection. Therefore, for at least the reasons presented above, Claims 44-48 are in allowable form. Withdrawal of the §112, first paragraph, rejection as applied to Claims 44-48 is also respectfully requested.

2. The Office Action rejects Claims 1-17 and 23-43 under 35 U.S.C. §103(a) over U.S. Patent No. 5,592,530 to Brockman et al. (“Brockman”) in view of U.S. Patent No. 5,905,985 to Malloy et al. (“Malloy”). The rejection is respectfully traversed.

Applicant agrees with the Office Action that Brockman clearly teaches “...a telephone monitoring system which can monitor SS7 messages of a **mated pair cluster**...(that detect) SS7 messages pertaining to a **particular** phone number...” (Office Action, page 18, lines 14-20). The mated pair cluster, as recited in Brockman, are **Signal Transfer Points (STPs)** (see col. 1, lines 42-45, col. 2, lines 1-3, col. 9, lines 15-16).

Applicant also agrees with the Office Action that there is no mention in Brockman of at least the feature of performing an on line analysis program to obtain a multidimensional database, the on line analysis program supporting interactive analysis for one or more users, and provides (network traffic load) reports thereof, as recited in independent Claims 1, 23, 29, 32, 38, and 43 (Office Action, page 4, lines 9-11). However, the Office Action asserts that it would have been obvious to modify the telephone switch dual monitors in Brockman with the relational database modification apparatus of Malloy to meet the claimed invention. Applicant respectfully disagrees with this assertion.

It is inherently stated in Brockman that an SS7 network typically comprises three types of node elements: an SSP (e.g. a central office, tandem switch, or an end-office switch), an SCP, or an STP (See: col. 1, lines 33-45). Considering the information above, Applicant respectfully submits that Brockman's sole focus is the health of an SS7 data network (See: Abstract; col. 1, lines 62-65) by deploying monitoring equipment at STPs (col. 9, lines 15-16) in order to determine error conditions at the application layer of the network (col. 3, lines 25-31); whereas, the concern of the present invention is the health of a **voice-switch telecommunications network** (i.e. call-carrying signaling in the voice-carrying network) by monitoring **call-carrying voice signaling between SSPs** (e.g. a central office, tandem switch, or an end-office switch) in order to monitor for **normal operation congestion in a trunking network as a result of routing utilization or unbalanced loading between the service switching points in the voice-switching telecommunications network from multiple switched calls**. Even further, Brockman does not disclose A-links between the STPs and end office switches or a tandem switch. See: Applicant's originally-filed specification at page 27, lines 16-23.

In order to determine the health of an SS7 data network, Brockman refers to messaging (data signaling) between two switching entities (i.e. a mated pair of switching nodes, such as STPs) (col. 1, lines 42-45, col. 2, lines 1-3, col. 9, lines 15-16). Thus, Brockman is only concerned with the proper operation of STPs in order to ensure the health of an SS7 network (See: col. 1, lines 62-64; col. 3, lines 20-34). Brockman identifies an SSP (e.g. a central office switch, tandem switch, or end office switch) at col. 1, lines 33-37, and states that "a key advantage of the present invention is to deploy the monitoring equipment at the STPs, rather than at the SSPs" (See: col. 9, lines 15-50).

By contrast, independent Claims 1, 23, 29, 32, 38 and 43, and new independent Claim 44 teach that the signaling is monitored for **multiple switched calls**. Essentially, the present invention uses the SS7 (e.g. an SSP, tandem switch, or end-office switch) to *monitor for normal operation of the voice-switch telecommunications network* (i.e. in order to investigate undesirable congestion) *for load-balancing or routing of multiple calls through the voice-switch telecommunications network during a period of time* (See: Applicant's specification at page 11, lines 16-22; page 25, line 6 – page 26, line 28; page 40, line 18 –

page 41, line 14). For example, the present invention monitors messages between end-offices or between an end-office and a tandem switch – not at the STPs, as recited in Brockman.

Although Brockman indicates, for economic reasons, that “it is more desirable to deploy surveillance systems in an SS7 network at the STPs (rather than at the SSPs)” (col. 9, lines 15-26), Brockman’s system is directed to *evaluate overall system errors when they occur* (col. 2, lines 55-57) for a particular call or transaction (entire Abstract) for a specified period of time no greater than 24 hours (col. 13, lines 41-57), which is in real-time on a single call-by-call basis; this is not equivalent to, and has nothing to do with *monitoring for normal operation of the voice-switch telecommunications network* (i.e. in order to investigate undesirable congestion) for load-balancing or routing of multiple calls through the voice-switch telecommunications network *during a period of time*, as recited by the claimed invention.

The claimed invention does not perform an evaluation upon detecting an error occurrence, as recited by Brockman, but rather, is constantly monitoring the system for ‘traffic flow’ even when no congestion in the system is present. Therefore, even if the claimed SSPs were deployed in Brockman’s SS7 network, Brockman’s system does not teach, or remotely suggest, *monitoring for normal operation of the voice-switch telecommunications network* (i.e. in order to investigate undesirable congestion) for load-balancing or routing of multiple calls through the voice-switch telecommunications network *during a period of time*, as recited by the claimed invention. Thus, it is apparent that Brockman actually *teaches away* from the claimed invention because Brockman is only focused on the *proper operation of STPs in order to monitor SS7 data for the surveillance of error conditions in the SS7 network as they occur*.

The Office Action also alleges that Brockman teaches multiple switched calls for multiple called numbers. It is respectfully submitted that Brockman does not teach or suggest the monitoring of network loads or routing of multiple switched calls as they impact the switched network.

Brockman *arguably teaches* the routing of signaling among STPs and mentions that some of the data available is signaling messages from the tandem switch that the voice-call is

going though. However, at most, Brockman *does not even teach or suggest how multiple switched calls are routed through a voice-switch telecommunications network, nor does Brockman teach or suggest how the available voice-signaling messages may be used.* In fact, Brockman appears to only look at STP signaling in order to observe routing through the network and *neglects to perform any load analysis on switching machines, such as the SSP, tandem switch, or end-office switch.* Even further, Brockman *does not mention any kind of analysis based on the switching machine that call-carrying voice signaling goes through, as recited by the present invention.* Yet even further, when the Office Action recited a portion of the abstract (see page 21, lines 2 and 6), the term, ‘transaction,’ as originally recited throughout Brockman’s abstract, was replaced at each instance of occurrence by the Office Action with Applicant’s claimed ‘multiple switched calls’ terminology. Essentially, it appears that the Office Action is admitting that Brockman **does not teach** or suggest ‘multiple switched calls’ because Brockman only concentrates on a ‘particular call or transaction,’ as recited in the abstract and at col. 4, lines 2-5.

As admitted by the Office Action, there is no mention in Brockman of at least the feature of performing an on line analysis program to obtain a multidimensional database, the on line analysis program supporting interactive analysis for one or more users, and provides (network traffic load) reports thereof. To make up for the deficiencies in Brockman, the Office Action indicates that Malloy teaches the steps of performing an on line analysis program and generating an on line network traffic load report (Office Action, page 4, lines 9 – 11). Applicant respectfully disagrees.

Although Malloy arguably appears to teach an on-line analytical management system (OLAP), Malloy does not teach or suggest using an OLAP with a telephone switch. Even further, Malloy does not even suggest the claimed the relation to traffic loads for multiple switched calls based upon collected messages. Incorporating a relational database management system based on the teachings of Malloy would not provide Brockman with the capability of monitoring and analyzing traffic patterns of multiple switched calls as claimed by the Applicant’s system.

Even further, Brockman, at most, appears to refer to comparing “calls” in order to detect a situation when a calling card number is fraudulently used (col. 3, lines 35-50; col. 16, line 62 – col. 17, line 15). This analysis of “calls” does not require nor suggest the use of a

relational database. In fact, even though Brockman *does not teach* how to implement the suggestion of fraud detection, those ordinarily skilled in the art would realize that a database, such as a sophisticated relational database working in real time, would not be required in a fraud detection implementation. Brockman would only suggest a printout of individual calls by time and location, which would be related to the utilization of the same calling card number in a fraud situation. Thus, **there is no need for a database in Brockman**, let alone a relational database as recited by the present invention.

Therefore, in light of the facts presented above, it is respectfully submitted that Brockman does not teach or disclose the claimed *monitoring for normal operation of the voice-switch telecommunications network* (i.e. in order to investigate undesirable congestion) *for load-balancing or routing of multiple calls through the voice-switch telecommunications network during a period of time*. Even further, Brockman and Malloy, taken singularly or in combination, does not suggest the claimed *monitoring for normal operation of the voice-switch telecommunications network* (i.e. in order to investigate undesirable congestion) *for load-balancing or routing of multiple calls through the voice-switch telecommunications network during a period of time*.

At best, the suggested combination of Brockman and Malloy would result in the proper operation of STPs in order to analyze an SS7 network for a particular, single transaction by an OLAP. It is respectfully submitted that this is not the claimed invention that teaches a method for analyzing call-carrying voice signaling between SSPs (e.g. a central office, tandem switch, or an end-office switch) in order to monitor for normal operation congestion in a trunking network as a result of routing utilization or unbalanced loading between the service switching points in the voice-switching telecommunications network from multiple switched calls. Thus, there is nothing in either Brockman or Malloy which would suggest that it would be advantageous to combine the references in order to achieve the claimed invention as suggested by the Office Action.

It is well established that even if all elements of a claim are disclosed in the prior art, the claimed invention taken as a whole cannot be said to be obvious without some reason given in the prior art why one of ordinary skill would have been prompted to combine the

teachings of the prior art to arrive at the claimed invention.<sup>1</sup> There is no motivation for one of ordinary skill in the art to modify Brockman with Malloy in order to achieve the claimed method or apparatus comprising at least signaling for multiple switched calls as recited in independent Claims 1, 23, 29, 32, 38, 43, and 44. This modification would only be obvious when viewed in light of the disclosure of the Applicant's patent application. The suggestion to combine the teachings of the prior art should come from the prior art, rather than from the applicant.<sup>2</sup> "Monday morning quarterbacking is quite improper when resolving the question of obviousness."<sup>3</sup> The combination of the teachings of the prior art suggested by the Examiner is improper, absent a showing in the prior art that they can or should be combined. To do so would be an impermissible use of hindsight reconstruction from Applicant's disclosure.<sup>4</sup> Because the prior art does not teach or suggest the desirability of the combination as suggested by the Examiner, the Office Action does not establish a *prima facie* case of obviousness.

For at least this reason, Claims 1, 23, 29, 32, 38, 43, and 44 are allowable over the applied art, taken singly or in combination. Claims 2-17, which depends from Claim 1, Claims 24-28, which depends from Claim 23, Claims 30-31, which depends from Claim 29, Claims 33-37, which depends from Claim 32, Claims 39-42, and which depends from Claim 38, are likewise allowable over the applied art, taken singly or in combination. Withdrawal of the rejection is respectfully requested.

At least for the same reasons explained above, new Claims 45-48, which depends from new Base Claim 44, are likewise allowable over the applied art.

### III. Response to Arguments

Applicant still maintains that Brockman's sole focus is the health of an SS7 data network by deploying monitoring equipment at STPs in order to determine error conditions at the application layer of the network; whereas, the concern of the present invention is the health of a voice-switch telecommunications network (i.e. signaling in the voice-carrying network) by monitoring signaling between SSPs (e.g. a central office, tandem switch, or an

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<sup>1</sup> *In Re Regal*, 188 U.S.P.Q. 136,139 n.6 (C.C.P.A. 1975).

<sup>2</sup> *Orthopedic Equipment Co., Inc. v. United States*, 217 U.S.P.Q. 193,199 (C.A.F.C. 1983).

<sup>3</sup> *Id.*

<sup>4</sup> *In re Dembiczak*, 50 USPQ2d 1614 (Fed. Cir. 1999).

end-office switch). Applicant also respectfully points out that Brockman also does not show a traffic monitoring and analyzing system comprising monitors coupled to the A links between the STPs end office switches or a tandem switch.

Nonetheless, Applicant respectfully points out that in view of the previous arguments filed on 4/30/03, the Examiner has substantially repeated and maintains the same rejections and response to arguments therein. At the outset of the "Response to Arguments" section, the Examiner points out (in the only apparent new verbiage directed to the previously rejected claims) an indication that "*features upon which the applicant relies...are not recited in the rejected claim(s).*" More specifically, the feature that the Examiner believes is deficient in the claims are the SSPs, which include tandem switches and end-office switches, that are associated with a monitor / the monitoring step. Applicant respectfully disagrees.

The use of SSPs, tandem switches, end offices, or A links in relation to a monitor / the monitoring step are positively recited in independent Claims 1, 23, 29, 32, 38, and 43. See, for example, Independent Claim 1, which recites, "***monitoring the signaling between the end office switching systems and the signal transfer points...***", and Claim 23, which recites, "***a switched telecommunications network having end office switching systems controlled by an SS7 common channel signaling system using packet switching via A, B, C, and D links connected to paired signal transfer points connected to one another by D links and connected by A links to the end office switching systems...monitoring the signaling in said A links and selecting the A link signaling relating to call set up***", and Claim 29, which recites, "***monitoring the signaling in said A links and selecting the A link signaling relating to call set up between end office switching systems through a tandem switching system***", and Claim 32, which recites, "***monitors interfacing to the signaling in said A links and selecting the A link signaling relating to call set up between end office switching systems through a tandem switching system***", and Claim 38, which recites, "***monitoring the common channel signaling between the end office switching systems and the signal transfer points and selecting the signaling relating to multiple switched calls***", and Claim 43, which recites, "***monitors interfacing to the signaling in said A links and selecting the A link signaling relating to call set up between end office switching systems***".

Claim 44, which was added in response to the last office action and currently amended herein also recites "***monitoring signaling between the service switching points and***



*the signal transfer points and selecting the signaling relating to multiple interoffice calls over a period of time and creating a plurality of flat files.”* As cited above, no art has been applied in rejecting Claim 44 and associated Claims 45-48.

IV. Conclusion

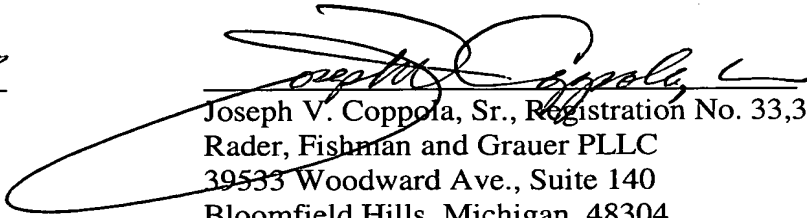
In view of the foregoing, it is respectfully submitted that the application is in condition for allowance. Favorable consideration and prompt allowance of the application is earnestly solicited.

Should Examiner Nguyen believe anything further would be desirable in order to place the application in better condition for allowance, the Examiner is invited to contact the undersigned attorney at the telephone number listed below.

It is believed that any additional fees due with respect to this paper have already been identified. However, if any additional fees are required in connection with the filing of this paper, permission is given to charge account number 18-0013 in the name of Rader, Fishman and Grauer PLLC.

Respectfully submitted,

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Date

  
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